Bruhat Bengaluru Mahanagara Palike

BRUHAT BANGALORE MAHANAGAR PALIKE
EXCECUTIVE ENGINEER YELAHANKA ZONE PROJECT DIVISION

Project management consultancy

PMC AND INSPECTION REPORT

NAME OF WORK: Package - 04 includes 7 Works of Rs. 582.00 Lakhs: 1) Improvements to roads and drains at Amruthahalli main road, Kariyanna layout and surrounding areas in ward no. 07. 2) Improvements to Roads and drains at bhadrappa layout and balaji layout and surrounding area in ward number – 08 3) Improvements to roads and drains in Kodigehalli colony, Maruthinagara, BB Nagar and surrounding area in ward no. 08 4) Improvements to Roads and Drains in BEL Layout, HMT Layout, Rajivagandhi Nagar (NTI), Thindhu and surrounding in ward No. 09 5) Improvements to Roads and Drains in Thindlu colony, Narasipura layout, Kempegowdnagara and surrounding area in ward No. 09 6) Improvements to Roads and Drains in Muthuraya Swamy layout, Doddabomasandra, Nanjappa layout, Chamundeshwari Layout in Ward No. 10 7) Improvements to Roads and Drains in Kuvempu Nagara, Singapura, Ramachandrapura and surrounding areas in ward no-11.

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1. Salient Features

- Name of Client: Bruhat Bangalore Mahanagara Palike
- Name of Project: Package - 04 includes 7 Works of Rs. 582.00 Lakhs: 1) Improvements to roads and drains at Amruthahalli main road, Kariyanna layout and surrounding areas in ward no. 07. 2) Improvements to Roads and drains at bhadrappa layout and balaji layout and surrounding area in ward number – 08 3) Improvements to roads and drains in Kodigehalli colony, Maruthinagara, BB Nagar and surrounding area in ward no. 08 4) Improvements to Roads and Drains in BEL Layout, HMT Layout, Rajivagandhi Nagar (NTI), Thindhu and surrounding in ward No. 09 5) Improvements to Roads and Drains in Thindlu colony, Narasipura layout, Kempegowdnagara and surrounding area in ward No. 09 6) Improvements to Roads and Drains in Muthuraya Swamy layout, Doddabomasandra, Nanjappa layout, Chamundeshwari Layout in Ward No. 10 7) Improvements to Roads and Drains in Kuvempu Nagara, Singapura, Ramachandrapura and surrounding areas in ward no-11.
- Name of road: Improvements to Roads and Drains in Kuvempu Nagara, Singapura, Ramachandrapura and surrounding areas in ward no-11
- Job Code: 007-19-000106, 008-19-000034, 008-19-000035, 009-19-000030, 010-19-000011, 011-19-000288
- Name of the Agency: Executive Engineer, B.B.M.P, Byatarayanapura, Bangalore
- Name of Consultant: Transheight Consultants Pvt. Ltd.
- Work Order: BBMP/EE/BTP/WO/110/2019-20
- Tender Price: 570.00 Lakhs

2. Quality Control System

The Works are being executed as per the Guidelines given in the Agreement, as per the Relevant Indian Standards and under the Skilled Supervision. All the Standard Quality Control Tests of Construction materials, which have been used, have been carried out and the reports are maintained.

All the available Test Reports are enclosed here with in **Annexure I.**

3. Progress Status:

Progress Photographs are enclosed in **Annexure II.**

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To,

The Executive Engineer,

Byatarayanapura Division

BBMP office, Bangalore.

"PMC & INSPECTION REPORT"

Dear Sir,

Subject: Regarding Inspection report for the below mentioned work.

Item No	Description of work	Unit	Qty
1	Removing and resetting footpath slab (P.no.256,I no.37.56 of pw, P&IWTDd SR 2018/19)	Sqm	95.40
2	KSRRB 300-1. Earth work excavation by manual means in Ordinary Soil soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5m, excavated surface leveled and sides neatly dressed, the disposed earth to be leveled neatly after breaking of clods complete as per specifications complete as per specifications.MORTH chapter 3. No. 143/ Item No. 19.1/ PWD SR 2018-19	Cum	6.71
3	KSRRB M400-17: Providing, laying spreading and compacting graded stones aggregate to wet mix macadam specifications including premixing the material with water at OMC in mechanical mix plant carriage of mixed method of tipper to site, laying, in uniform layers with paver in sub base course on well prepared surface and compacting with vibratory roller to achieve the desired density complete as per specifications. MORTH specification NO. 406,P No. 155/ Item No. 20.18/ PWD SR 2018-19	Cum	1.51
4	KSRRB 500-4: providing and applying primer coat from 7.5 to 9.8 kg and 9.8 to 12.2kg per 10 sqm for surfaces of low and medium porosity respectively over prepared surface of granular base with cut bank M.C-70 or any other bitumen mixed with diesel at 10 kg per 10 sqm heated in bitumen boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, HOM of machineries complete as per specificationsDo-Medium Porosity MORTH chapter 5, No. 158/ Item No. 21.6/ PWD SR 2018-19	Sqm	768.27
5	KSRRB 500-11. Providing and laying bituminous macadam on Prepared Surface with crushed Coarse aggregates as per Design mix formulae for base/binding course including loading of aggregates with F.E loader,Hot mixing of Stone aggregates and bitumen in Hot mix plant, transporting the mixed material in tipper to paver and laying mixed materials with paver finisher to the required level and grade, rolling by power roller to achieve desired density, but excluding cost of primer/Tack coat including lead, lift and cost of all materials, labour HOM of machinaries complete as per Specifications. MORTH Ch 5. using 40/60 TPH capacity HMP with Mechanical paver Gr-II (50mm - 75mm) with 3.4% VG-30 bitumen. Item no:21.11.6	Cum	38.41

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6	KSRRB 500-9: providing and applying tack coat on granular base such as WBM and WMM surfaces hot bitumen primed at 10 kg per 10 sqm, heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, HOM of machineries complete as per specifications. MORTH specifications 5, No.158/ Item No. 21.9/ PWD SR 2018-19	Sqm	268.61
7	KSRRB M500-19: providing and laying bituminous concrete 40mm thick with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder at 5.4 to 5.6% of mix and filler, transporting the hot mix to work site, laying with hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem roller to achieve the desire compaction as per MORTH Cumspecification clause No. 500.9 complete In all respects as per specifications. MORTH specification 30-45mm compacted thicikness (GradingII) With 6% bitumen 80/100, No. 161/ Item No. 21.22.1/ PWD SR 2018-19	Cum	10.74
8	ksrrb m300 - 54 Construction of embankment with approved material deposited at site from roadway cutting and excavation from drain and foundation of other structures graded and compacted to meet requiremnet of table 300-2 complete as per specification which includes watering charges and compaction by vibratory roller. morth specification no 305. 19.61 page no 147	Cum	293.17
9	KSRB 15-17.5: Applying priming coat over new wood surface and / or wood based surface preparing the surface after thoroughly cleaning oil, grease, dirt, and foreign matter, sand papering and knotting ready mix paint including cost of materials, labour, complete as per specifications. Page No. 120/ Item No. 15.59 / PWD SR 2018-19	Sqm	599.20
10	Dismantling cement concrete flooring or plain cement concrete work including removing and conveying the debris to distance upto 200 m (within average thickness of 15 cms), No. 270 Item No. 37.51 PWD SR 2018-19	Sqm	402.25
11	KSRRB M300-59.2: loosening, leveling and compacting original ground supporting embankment to facilitate placement of first layer of embankment, scarified to a depth of 150mm, mixed with water at OMC and then compacted by rolling so as to achieve minimum dry density as given in table 300-2 for embankment construction, complete as per specifications, case-II: compacting original ground supporting embankment, (which includes watering charges & compaction by vibratory roller) MORTH specification No. 3.5.3.4 Page No. 146. Item No. 19.66/ PWD SR 2018-19	Sqm	964.23
12	KSRB-4-1.3 : Providing and laying in position plain cement concrete of mix M 1:4:8 withOPC cement at 180kgs, with 40mm and down size graded granite metal coarse aggregates @0.892cum and fine aggregates @0.57cum machine mixed, concrete laid in layers not, exceeding 15cms, thick, well compacted, in foundation and plinth, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1,4.2, No. 13/ Item No. 4.3/ PWD SR 2018-19	Cum	84.63

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13	Constructing un-reienforced palne cemetn conctere for pavements using rate concrete M30 Over a prepared base with OPC course aggregate at 0.69cum fine aggregates at 0.64cum course anf fine aggregate confirming to IS:383:2016 with super plasticizers at 3mte of its confirming IS:9103-2008. Item no22.6 page no-175	Cum	65.77
14	KSRRB M2600-3: (ii) Providing & fixing 20 mm thick compressible fibre board in expansion joint complete as per drawing & technical specification complete as per specifications, MORTH specification No. 2605, No. 233/ Item No. 31.3 PWD SR 2015-16	M	334.85
15	Vaccum De- writing with vaccum pump and suction mat and compaction with skin flater clubbed with floatiog disc including cost of generator, HOM of machinery Sereed Vibratory Power Floaterblade and diisc etc. with all lead and lift No. 171/ Item No. 22.7/ PWD SR 2018-19	Sqm	917.65
16	RCC Covering slabs for culverts Data rate:5111rs/Piece)	No's	72
17	KSRB 5.2.3 Providing and constructing granite / trap / basalt Size stone masonry in foundation with cement mortar 1:6, stone hammerd dressed in courses not less than 20 cms high, bond stones at two m. apart in each course including cost of materials, labour, curing complete as per specifications.KBS 5.1.13 Page No. 25/ Item No. 5.6/ PWD SR 2018-19	Sqm	20.09
18	KSRB 15.1.3: Providing Flush pointing to coursed stone masonry with cement mortar 1:3, 20 mm deep, after raking joints to depth of 20mm nicely lining, including cost of materials, labour, curing complete as per specifications. Page No. 115/ Item No. 15.1/ PWD SR 2018-19	Sqm	41.76
19	Providing and laying in position reinforced cement concrete of design mix M20 with OPC cement @320kgs, with 20mm and down size graded granite metal coarse aggregates @0.878cum and fine aggregates @0.459cum, with superplastisiser @3lts confirming to IS 9103-1999 reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation plinth and ground floor level for roof slabs, staircase, lintles, retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window cills, fillets etc., including cost of all materials, labour, HOM of machinery, curing, complete as per specifications.PWD SR 2016-17, It No.4.11 Pg No.14	Cum	2.92
20	Providing and laying in position reinforced cement concrete of design mix M20 with OPC cement @320kgs, with 20mm and down size graded granite metal coarse aggregates @0.69cum and fine aggregates @0.46cum, with superplastisiser @3lts confirming to IS 9103-1999 reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for RCC beams, columns, roof of all sizes in foundation plinth and superstructure ground floor level for roof slabs, staircase, lintles, columns, including cost of all materials, labour, HOM of machinery, curing, complete as per	Cum	11.83

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	specificationsPWD SR 2016-17, It No.4.13 Pg No.14.		
21	KSRB 4.9.2 : Providing T.M.T steel reinforcement for R.C.C work including straightening, Cutting, bending, hooking placing in position, lapping and /or welding wherever required, tying with binding wire and anchoring to the adjoining member wherever necessary complete as per design (laps, hooks and wastage shall not be measured and paid) cost of materials, labour HOM of machinery complete as per specification for TMT Bars Fe 500 (PWD SR 2016-17 item No. 4.46.2, p. No. 18)	Mt	2.06
22	Providing and removing Centering & Shuttering, strutting, propping etc., and removal of form work for flat surface such as suspended floors, roofs, landings, balconies and likes, thickness upto 200 mm including cost of all materials, labour complete as per specifications.PWD SR 2016-17, It No. 4.30, Pg No.16	Sqm	222.00
23	Providing and removing Centering & Shuttering, strutting, propping etc., for columns, pillars, piers, abutments, post and struts, square/rectangular / polygon in plan including cost of all materials, labour complete as per specifications.PWD SR 2016-17, It No. 4.32, Pg No.16	Sqm	167.45
24	Providing and constructing Burnt Brick masonry with approved quality of non-modular bricks of standard size of class designation 50 (Table moulded) with cement mortar 1:6 masonry for basement and super structure including cost of materials, labour charges, scaffolding, curing complete as per specifications.PWD SR 2016-17, It No.6.6 Pg No.29	Sqm	10.78
25	Providing and constructing granite/trap/basalt Size stone masonry in foundation with cement mortar 1:6 stone hammer dressed in courses not less than 20cms high, bond stones at two mtr apart in each course including cost of materials, labour curing complete as per specifications.PWD SR 2016-17. It No.5.5, Pg No.25	Cum	10.90
26	Providing and constructing granite/trap/basalt size stone masonry in super structure with cement mortar 1:6, edges of stones chistle dressed in courses not less than 15 cms high, bond stones at two mtr apart in each course including cost of materials, labour, curing complete as per specifications.PWD SR 2016-17. It No.5.12, Pg No.25	Cum	2.60
27	Providing 18mm thick cement plaster in single coat with cement mortar 1:4, to brick masonry including rounding off corners wherever required smooth rendering, Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.PWD SR., 2016-17 It No.15.13, Pg No. 115	Sqm	53.69

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28	Providing 20mm thick cement plaster in single coat with cement mortar 1:4, to stone masonry & concrete surface including rounding off corners wherever required smooth rendering, Providing and removing scaffolding, including cost of materials, labour, curing complete as per specificationsPWD SR, 2016-17, It No 15.19, Pg No.116	Sqm	342.49
29	KSRB 15-3.14 Providing 12mm thick cement plaster in single coat with cement mortar 1:4 to Ceiling including rounding off corners wherever required smooth rendering, Provinding and removing scaffolding, including cost of materials, labour, curing complete as per specifications.PWD SR., 2016-17 It No.15.22, Pg No. 116	Sqm	146.28
30	Providing and applying two coats with oil bound washable distermper Two Coats of distemper of approved brand and shade on Ceilling & sloped roof including priming coat with distemper primer after throughly brooming the surface free from mortar drops and other foreign matter including preparing the surface even and sand paper smooth, cost of materials, labour, complete as per specifications.PWD SR 2016-17, It No.15.49. Pg No.119	Sqm	389.80
31	Providing and finishing external walls in two coats with Water Proof Cement paint of approved brand and shade to give an even shade after throughly brooming the surface to remove all dirt and loose powdered material, free from mortar drops and other foreign matter cost of materials, labour, complete as per specificationsPWD SR 2016-17, It No.15.53. Pg No.120	Sqm	597.94
32	Providing skirting, dadoing, rises of steps with white glazed tiles on 6mm thick cement plaster 1:3 and jointed with white cement slurry over existing rough plaster surface using glazedtiles of approved make and size including cost of materials, labour, complete as per specifications. PWD SR 2016-17, It No14.36.4 Pg.No.108	Cum	0.09
33	Providing and fixing in position fully panelled Honne wood shutters for doors, styles and rails of 30 mm. thick with bottom and lock rails 180 mm wide top rail and styles 100 mm wide as per drawing and panels of 25 mm thick including cost of materials.PWD SR 2016-17, It No.9.21, Pg. No.54	Sqm	5.04
34	Providing and fixing in position in cement concrete 1:3:6 Steel glazed windows and Ventilators side hung/top hung 2/3 openable 1/3 fixed as per approved drawings using Z angles of 25x33x3mm, weighing 1.419kg/m both for outer and inner frames and central mullion section of size 25x46x3 mm, weighing 2.28kg/m all duly providing T section 19x19x3 mm weighing 0.839kg/m for glazing of windows, not more than 34 cms, C to C including providing and fixing 4mm, thick reeded glass with teakwood beading of required size, all steel sections should confirm to I.S. 7452:1990, 4nos. of holdfasts of approved size, section should be cut to length welded and grinded electrically subdividing frames of unit shall be tenoneed and revetted into the frames electrically. All the steel surface shall be throughly cleaned free of rust and painted with one coat of anti-corrosive paint and finishing two coats of ready mix paint of approved colour and make including cost of materials, fixtures, labour charges and HOM of machinery complete as per specifications.PWD SR 2016-17, It No.7.8, Pg No.34	Sqm	21.60

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35	Providing and fixing 304 - grade stainless steel hand rails of 14-gauge pipes for Ramps or Staircase are made out of stainless steel hallow pipes, using 50mm dia for verticals @1.60 mtr c/c are fixed to the ramps or steps by drilling with bolts and 100mm dia MS base plates 10mm gauge for fixing of Vertical pipes 4 - Nos anchor bolts & 40mm dia pipes are fixed horizontally for 2-rows top, one pipes are fixed with vertical pipes another one are fixed with elbows and 25mm dia pipes are fixed horizontally for 2-rows below top measure @ equal intervals including cutting, welding, bending wherever necessary with suitable caps @ tops, bottoms & corners finishing with mat / shining etc., complete including cost and conveyance of all materials, labour for all items of work, HOM of equipment with all lead and lift, loading and unloading, transportation charges and all other incidental charges etc., complete as per specification and directions of the Engineer-in-charge of the work. Ramps or Staircase for physically challenged. (P.No. 43, I.No. 7.39 of PWD SR 2016-17)	Sqm	60
36	Construction of Granular sub-base Grading-V as Sub-base and drainge layer by providing coarse graded crushed stone aggregate of granite/trap/basalt material, mixing in mechanical mix plant at OMC, Carriage of mixed material to work site, spreading in uniform layers with motor graded on prepared surface and compacting with vibratory power roller to achieve the 98% proctor density, complete as per specifications. Clause 401 of MORTH V Revision. P No. 153/ Item No. 20.5/ PWD SR 2018-19	Cum	21.23
37	Providing and fixing M.S Grill work for windows and ventilators using M.S flats or M.S fsquare rods or combination of M.S flat and square rods as per approved deisgn, drawing including cutting steel sections and welding the same to required pattern with a coat of red lead primer, cost of materail, fixtures, labour and HOM of machinery complete as per specification. Specification No:KBS 7.12 (P.No:32 Items No:7.9 of PWD SR 2016-17)	Kgs	222.05
38	Providing and fixing in position aluminium windows and ventilators as per approved drawings with sliding shutters using three track window frame of size 92x31.75mm bottom section 1.3mm thick, weight 1.07kg/m; sides and top sections 1.3 mm, thick, weight 0.933 kg/m.shutter frame section comprising top and bottom section of size 40mmx18mm, wall thickness 1.25mm. weight 0.417 kg./m. shutter side outer 40mmx18mm. wall thickness 1.25mm. weight 0.417 kg/m, shutter interlock section 40mmx26.7mm wall thickness 1.1 mm. thick, weight 0.469 kg/m, the shutters mounted on nylon rollers with approved quality of fixtures such as aluminium handles tower bolts etc.; providing and fixing 5.5mm. thick plain glass for shutters fitted with rubber beading all aluminium sections including cutting to required length, joints mitred subdividing the frame tenonned and rivetted, in the assembled frame, stiffened with end clips for corners, angles etc., and fixed to the walls, lintels, floor beams/cills as the case may be, with necessary steel screws, raul plugs or teak wood gatties including cutting masonry or concrete and making good the original surface using cement mortar.using aluminium section powdered coated to a minimum of 60-70 microns with exterior durable pure polyester grade powder of approved quality.P.No. 33, I.No. 7.11.2of PWD SR 2016-17	Sqm	119.76

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39	Providing & applying water proofing to roof slab, terraces, landscape area, podium etc., using modified polyurethane cures (conforming to ASTM C836-84) to give a tough elastomeric waterproof membrane on the surface. The surface shall be cleaned free from dust and other particle before usage. standards & methodology : (P.No. 267, I.No. 38.2 of PWD SR 2016-17)	Sqm	5.75
40	Providing & applying water proofing to roof slab, terraces, landscape area, podium etc., using modified polyurethane cures (conforming to ASTM C836-84) to give a tough elastomeric waterproof membrane on the surface. The surface shall be cleaned free from dust and other particle before usage. standards & methodology : (P.No. 267, I.No. 38.2 of PWD SR 2016-17)	Sqm	2.3

With respect to the above subject & name of work, we have inspected the work and the Quantity and Quality of above mentioned items of the work was found to be completed satisfactorily for the bill

Thanking you,

With Regards

Transheight Consultants P. Ltd. Bangalore

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